Draft Environmental Assessment

City of Gulf Breeze Wastewater Treatment Facility
Gulf Breeze, Santa Rosa County, Florida

FEMA Florida Long Term Recovery Office

FEMA-1551-DR-FL - Project Worksheet 3817

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FEMA

APPENDICES

ACRONYMS AND ABBREVIATIONS

APE	-	area of potential effect
BMPs	-	best management practices
CFR	-	Code of Federal Regulations
CZMA	-	Coastal Zone Management Act
CZMP	-	Coastal Zone Management Plan
EA	-	Environmental Assessment
EIS	-	Environmental Impact Statement
EO	-	Executive Order
ESA	-	Endangered Species Act
EFH	-	essential fish habitat
ESA	-	Endangered Species Act
FEMA	-	Federal Emergency Management Agency
FIRM	-	Flood Insurance Rate Map
FL DEP	-	Florida Department of Environmental Protection
FL DEM	-	Florida Division of Emergency Management
FONSI	-	Finding of No Significant Impact
MGD	-	million gallons per day
NEPA	-	National Environmental Policy Act
NHPA	-	National Historic Preservation Act
NMFS	-	National Marine Fisheries Service
NRHP	-	National Register of Historic Places
NWI	-	National Wetland Inventory
PAL	-	Pensacola Archaeological Lab
PCI	-	Panamerican Consultants, Inc.
SHPO	-	State Historic Preservation Office
THPO	-	Tribal Historic Preservation Officer
US ACE	-	U.S. Army Corps of Engineers
US FWS	-	U.S. Fish and Wildlife Service

1.0 INTRODUCTION

1.1 Background Information

Hurricane Ivan made landfall near Gulf Shores (approximately 35 miles west of Santa Rosa Island, Florida) on September 16, 2004. As a result of the anticipated impacts of the hurricane on the State of Florida, President George Bush issued a major disaster declaration (FEMA 1551–DR FL) in conformance with the Robert T. Stafford Disaster Relief and Emergency Assistance Act, as amended by Public Law 106390, the Disaster Mitigation Act of 2000. Twenty-five counties were declared eligible for Public Assistance funding, including Santa Rosa County. Subsequently, the City of Gulf Breeze in Santa Rosa County petitioned the Federal Emergency Management Agency (FEMA) for Section 406 Public Assistance funding under the provisions of the same act.

The City of Gulf Breeze has applied to FEMA for assistance with the demolition and debris removal of its fishing pier in Pensacola Bay. The fishing pier was historically a three mile bridge that contained Highway 98 and connected the City of Gulf Breeze in Santa Rosa County with the City of Pensacola in Escambia County. When Highway 98 was reconstructed on a more modern bridge in 1960, several sections in the center of the original bridge were removed over the navigation channel of Pensacola Bay. Removal of these sections resulted in the splitting of the bridge into two sections, each of which assumed the role of a fishing pier within their respective communities. The 1.5 mile fishing pier that was the responsibility of the City of Gulf Breeze was damaged during Hurricane Ivan by high winds and storm surges and was determined to be unrepairable.

The City of Gulf Breeze has applied to FEMA for an alternate use of the funds that are eligible for the repair of the fishing pier. One of the projects for which the City of Gulf Breeze has applied for this funding is for the initial phase of construction of a new wastewater treatment plant. This Environmental Assessment (EA) is being developed for the construction of that wastewater treatment facility. The project location for the proposed wastewater treatment plant and the accompanying sewer pipeline are shown in **Appendix A – Exhibits 1 and 2.**

1.2 Project Authority

This EA is prepared in accordance with Section 102 of the National Environmental Policy Act (NEPA) of 1969, as amended. In accordance with the NEPA, the President's Council on Environmental Quality has developed regulations for implementing the NEPA. These federal regulations, set forth in Title 40, Code of Federal Regulations (CFR) Parts 1500-1508, require an evaluation of alternatives and a discussion of the potential environmental impacts of a proposed federal action, as part of the EA process. The FEMA regulations, which establish FEMA's process for implementing the NEPA, are set forth in 44 CFR Subpart 10.

The purpose of this EA is to analyze the potential environmental impacts of the proposed project and alternatives, including no action, and to determine whether to prepare an Environmental Impact Statement (EIS) or Finding of No Significant Impact (FONSI). In accordance with the above referenced regulations and FEMA's own regulations for NEPA compliance found in 44

CFR Part 10, FEMA is required during decision making to fully evaluate and consider the environmental consequences of major federal actions it funds or undertakes.

1.3 Project Information

The City of Gulf Breeze is in the process of removing the damaged fishing pier and has applied to FEMA and Florida Division of Emergency Management (FL DEM) for an alternate use of the funds that would have been eligible for repairing the structure. The alternate projects for which funds have been requested include:

- Pier Demolition: Removal of the 7,350-foot long fishing pier, with debris disposal that will occur at an off-shore artificial reef site. The work will be done in accordance with all local, state, and federal regulations; all required permits will be obtained prior to removal. Florida Department of Environmental Protection (FL DEP) has issued a De Minimis Exemption, thereby allowing demolition, removal, and disposal (file# 57-2740510-1-DE). The U.S. Army Corps of Engineers (US ACE) has determined that no permit is required for this work. The State Historic Preservation Office (SHPO) has determined that the bridge is not eligible for listing in the National Register of Historic Places. The SHPO has requested the bridge be documented and 11 underwater anomalies noted during a previous study be avoided. Any necessary clearance from the National Marine Fisheries Service (NMFS) and U.S. Fish and Wildlife Service (US FWS) will be obtained prior to demolition and debris removal. The project is Categorically Excluded from NEPA review under Category xii and is therefore not considered in this EA.
- Gas Pipeline: Construction of an 18,145-foot extension of a natural gas pipeline to provide service to the Pensacola Beach area, an island community. The work will occur within the existing utility easement on Pensacola Beach Road for the majority of the project length. A 800-foot section will occur in a submerged land lease parcel parallel to the island bridge, to be installed via directional boring in order to minimize environmental impacts. The project is Categorically Excluded from NEPA review under Category ix and is therefore not considered in this EA.
- Expansion of Recreation Facilities: Expansion and improvement of the City's Shoreline Park North through the addition of two combined restroom and concession facilities, a stand alone restroom serving the tennis area and children's park (and required utilities), field improvements, updated mechanical systems for the existing recreation center, as well as an expansion of the center to accommodate an additional gymnasium court and multipurpose rooms. This expansion will necessitate the relocation of some the existing tennis courts. The project location is outside the 100-year floodplain per FIRM 12113C 0606G. The project is Categorically Excluded from NEPA review under Category xvi and is therefore not considered in this EA.
- Mounds Circle Lift Station: Installation of a lift station at 732 Mound Circle in the Bay Cliffs area of the City of Gulf Breeze. This area has been the recipient of extensive flooding and subject to standing water after heavy rainfalls. The project location is outside the 100-year floodplain per FIRM 12113C 0606G. The project is Categorically Excluded from NEPA review under Category ix and is therefore not considered in this EA.

- Vehicle and Equipment Purchases: The City of Gulf Breeze has decided to upgrade their fire fighting equipment and has determined that a Pierce Dash Top Control pumper fire truck is the highest priority for replacement. Additional fleet vehicles and equipment for the City may also be purchased. The project is Categorically Excluded from NEPA review under Category vi and is therefore not considered in this EA.
- Engineering Studies: Financing engineering and design studies. The project is Categorically Excluded from NEPA review under Category iii and is therefore not considered in this EA.
- Construction of a wastewater treatment facility: The City of Gulf Breeze is proposing to construct a wastewater treatment on Bergren Road in Santa Rosa County. The project also includes the installation of a sewer pipeline within existing right-of-way. ***This EA is being developed for the purpose of determining environmental impacts from this proposed facility.***

The City of Gulf Breeze is proposing to use funding eligible for the reconstruction of a fishing pier for an alternate project that consists of the construction of a wastewater treatment facility. The wastewater treatment facility would consist of a 25-acre facility constructed on a 42-acre parcel of property owned by the City and currently being used as a spray field for wastewater effluent disposal. The wastewater treatment facility would require the installation of a sewer pipeline within the right-of-way of the adjacent Bergren Road, south of the 42-acre parcel of property.

1.4 Purpose and Need

The City of Gulf Breeze is proposing to construct a Phase I wastewater treatment facility at this time, which would be followed at a future date by the Phase II treatment facility. A new wastewater treatment facility is needed in order to accommodate projected growth and the resulting increased need in Santa Rosa County. The existing South Santa Rosa Utility wastewater treatment facility, located in South Santa Rosa County, was designed in the 1980s to treat 2.0 million gallons per day (MGD) of wastewater. This wastewater treatment facility disposes of effluent through several spray fields designed to handle 1.77 MGD. Solids are dewatered and land applied to agricultural sites in northern Okaloosa County, FL. Population and customer growth is expected to result in the capacity of the wastewater treatment facility being exceeded by need near the end of 2013 or beginning of 2014.

Additionally, many of the Santa Rosa County residents are currently on septic systems, which are impacting the East Bay of Pensacola Bay. Construction of a new wastewater treatment facility would allow residents to gradually decommission the septic tanks/drain fields, which would improve ecological conditions in East Bay. The wastewater treatment facility would also allow for utilization by new development, thereby avoiding the need to install new, additional septic systems within the area.

2.0 ALTERNATIVES CONSIDERED

2.1 Proposed Alternative: Construction of Wastewater Treatment Facility

The City of Gulf Breeze is proposing to construct a 25-acre wastewater treatment facility on a parcel of land located in the northwestern portion of the City. The proposed facility would be located on a triangular piece of property bordered by Bergren Road (west), River Branch Road (south and east), and Clay Circle (north), the center of which is at latitude 30.4143, longitude -86.9734. The active portion of the wastewater treatment facility would cover approximately ten acres of land and would be screened from public view by a 100-foot wide vegetated buffer.

The wastewater treatment facility would be capable of treating 1.5 MGD, with a planned increase of another 1.5 MGD at an unspecified date. The wastewater treatment facility would allow the City to accept effluent from Santa Rosa County. The facility would have influent screening and grit removal, equalization, an aeration basin, secondary clarification, a return activated sludge pump station, filtration, chlorination, aerobic digestion of residuals, dewatering with centrifuge system, and a solid handling facility. Wet weather storage would be provided for by a 9 million gallon on-site storage pond; reject storage would be provided for by a 1.9 million gallon on-site storage tank. The project also includes a five to six acre holding pond that would provide water for re-use irrigation on residential and commercial properties in the service area. Effluent discharge would also be land applied at the Santa Rosa County Utility System's existing wastewater treatment facility's spray fields ERS-1, ERS-2, ERS-3, and ERS-4. Provisions are included in the design to allow for the installation of odor control should odors become a problem following construction of the facility.

The proposed construction of a new wastewater treatment facility would include a gravity line sewer system along Bergren Road and Clay Circle, which would allow residents to tap into the sewer system. All new sewer piping that would be required to support the new wastewater treatment facility would be located within County or State-owned road right-of-ways; there would be no need to install sewers in areas that have not been previously disturbed. No new lift stations would be necessary.

The proposed wastewater treatment facility would serve new development already approved or pending in the area. The existing homes adjacent to the proposed facility currently utilize septic tanks on site to treat their domestic wastewater. The proposed project would include a sewer system that would allow these existing homes to connect to it, with no connection fees assessed to the property owners. This service would be made available to homes in the immediate vicinity of Bergren Road, River Birch Road, and Clay Circle. Additionally, means to provide sewer service to residents along East Bay Boulevard would be evaluated.

The City of Gulf Breeze has applied for and received a permit from FL DEP for the construction and operation of the new 1.5 million gallon per day domestic wastewater treatment facility. The permit, FLA399850-001-DW1P/NP is in effect until September 2012.

This alternative will be referred to in this document as the *Proposed Alternative*.

2.2 No Action Alternative

The *No Action Alternative* consists of not utilizing funds available for the repairs/reconstruction of the fishing pier for construction of a new wastewater treatment facility.

2.3 Alternatives Analyzed and Dismissed

The City of Gulf Breeze identified six sites for consideration as a possible location for a new wastewater treatment facility. Three of the sites were existing spray fields owned by the South Santa Rosa Utility System and three sites were privately owned. Each site was evaluated based on criteria determined to be instrumental in the decision process. These factors included soil type, groundwater depth, property size, wetlands, accessibility of utilities, proximity to commercial and/or residential properties, and cost. Each factor was assigned a rating system and the sites were scored accordingly. A comparative cost analysis was done on the two sites that scored the highest. The proposed site was chosen based on the lower comparative costs associated with development of this site. Additionally, the City of Gulf Breeze utilities planning staff supported the *Proposed Alternative* because it is effectively located relative to the service area.

3.0 AFFECTED ENVIRONMENT AND POTENTIAL IMPACTS

The following table summarizes environmental resources and the impacts from the two alternatives. A complete discussion of those resources that have potential impacts follows the table.

3.1 Affected Environment and Consequences – Summary Table

Affected Environment	Text Location	No-Action Alternative	Proposed Alternative
Geology and Soils	N/A	None	None
Prime Farmland	N/A	None	None
Air Quality	N/A	None	None
Water Resources	**Sec 3.2**		
Groundwater	Sec 3.21	Quality: Overall negative impact to groundwater quality due to continuation of residential septic systems and continued impacts from fecal coliform, phosphorous, and nitrogen. Quantity: Potential for up to 181,000 gallons per day from existing spray fields.	Quality: Overall positive impact on groundwater quality due to installation of sewer system that allows elimination of nearby residential septic systems, elimination of fecal coliform, phosphorous, and nitrogen sources. Quantity: Minimal impacts to water table due to permanent loss of 181,000 gallons per day from spray field; potential for the addition of 50,000 gallons per day from the holding pond.
Surface Water	Sec 3.2.2	Overall negative impact to water quality in East Bay due to continuation of residential septic systems and continued impacts from fecal coliform, phosphorous, and nitrogen.	Overall positive impact on surface water quality in East Bay due to installation of sewer system that allows elimination of nearby residential septic systems, eliminating fecal coliform, phosphorous, and nitrogen sources.

Floodplain	Sec 3.2.3	None	None
Coastal Zone Management	Sec 3.2.4	None	In Compliance
Biological Resources	**Sec 3.3**		
Wetlands	Sec 3.3.1	Continued impacts to water and vegetative quality due to fecal coliform and nitrogen contamination from septic systems discharging to groundwater, with eventual flow into wetlands.	0.03 acre of fill to ditch wetland due to road system upgrades Short term impacts from erosion and sedimentation during construction, to be minimized through the implementation of BMPs. Minimal impacts to water and vegetative quality, or hydrology, from infiltration of excess effluent from holding pond to groundwater and loss of effluent disposal via spray fields. Positive impacts due to the elimination of septic systems at nearby residential properties, and the resulting elimination of the groundwater contamination by fecal coliform and nitrogen discharging to wetlands.
Terrestrial Resources	Sec 3.3.2	None	Negative impacts due to the destruction of the upland sand-hill community. Direct impacts to nesting, roosting, or foraging birds and other wildlife due to this loss. The loss of this community would not be a significant impact because this ecosystem type is plentiful in the State of Florida.

Threatened and Endangered Species	Sec 3.3.3	None	None
Essential Fish Habitat	Sec 3.3.4	Continued impacts to EFH due to fecal coliform and nitrogen contamination from septic systems discharging to groundwater and impacting water quality in East Bay.	Positive impacts due to removal of septic tanks, resulting in the ceasing of release of coliform and nitrogen from entering groundwater and impacting water quality in East Bay.
Socioeconomics	**Sec 3.4**		
Socioeconomic Impacts	Sec 3.4.1	Economics: None Land Use/Zoning: None Traffic: Increased traffic if residential development occurs Noise: None Odors: None Visual Aesthetics: None Hazardous Materials: None Lighting Impacts: None	Economics: None Land Use/Zoning: Zoning change from Residential Traffic: Minimal Noise: None Odors: None Visual Aesthetics: None Hazardous Materials: None Lighting Impacts: None
Property Values	Sec 3.4.2	None	None
Environmental Justice	Sec 3.4.3	None	None
Public Services and Utilities	N/A	None	None
Public Health and Safety	N/A	None	None
Cultural Resources	**Sec 3.5**		
Historic Resources and Archaeological Resources	Sec. 3.5.1	None	No significant impacts are anticipated. In order to minimize potential for impacts, work would stop upon any unexpected discoveries. Additionally,
Traditional Religions/Native	Sec 3.5.2	None	

American Resources			an archaeologist would be present during ground disturbing activities in the vicinity of Sites 8SR1913 and SR1914.
Cumulative/Secondary	**Sec 3.6**	Cumulative impacts to water quality in East Bay due to septic tanks release of coliform and nitrogen. Secondary impacts to water quality in East Bay if residential development results in additional septic tanks, and their release of same. Secondary impacts to traffic possible if property undergoes residential development.	None

3.2 Water Resources

3.2.1 Groundwater

Groundwater sampling was conducted by the City of Gulf Breeze for planning purposes in the early development of this project. Sampling for fecal coliform indicated that the groundwater in the project vicinity exceeds regulatory limits. The groundwater samples were indicative of septic tank (human feces) contamination. The groundwater also carries considerable nitrogen and phosphorous. The fecal coliform, phosphorous, and nitrogen contaminants found in the groundwater are likely contributing to the impairment of surface water in East Bay. Below is a complete discussion of the anticipated groundwater impacts.

Groundwater Quality

Impacts to groundwater from wastewater treatment systems have historically been due to the release of pathogens (bacteria, protozoa) or to the release of nitrate. The potential for these impacts from this project have been assessed by the City of Gulf Breeze (Baskerville-Donovan, May 2009, *Draft Environmental Assessment*).

Groundwater in the project area has been studied in order to determine baseline conditions for the proposed wastewater treatment facility. Sampling of groundwater for fecal coliform was conducted pre- and post-storm at the entrance to the property on Clay Circle Road. Residential properties and a horse farm are located upstream of the property. Pre-storm samples analyses indicated that the groundwater does not contain any salinity, so tidal water from the nearby East Bay is not intruding into the groundwater. Pre-storm fecal coliform levels, however, exceeded regulatory limits at the property entrance on Clay Circle Road. Pre-storm samples from groundwater collected at Rt. 399 did not exceed coliform regulatory limits. Post-storm sample analyses indicated that the regulatory limit for fecal coliform was exceeded at both sampling locations.

The groundwater samples were indicative of septic tank (human feces) contamination. Areas downstream of undeveloped areas had the lowest values, which would include contributions from wildlife. Several mound systems were evident in the area, indicating that septic systems are being installed at minimal distances from the groundwater.

Proposed Alternative

Locating the wastewater treatment facility and providing sewer service to residential properties would relieve groundwater contamination. The contaminated groundwater carries considerable fecal coliform and nitrogen loads.

The presence of a wastewater treatment facility, along with holding ponds and spray fields, has the potential to impact groundwater quality. The *Proposed Alternative* includes a five to six acre holding pond that would provide water for re-use irrigation on residential and commercial properties. The holding pond would be lined to prevent loss of effluent to the groundwater. Effluent in excess of demand would overflow into an unlined area of the pond and recharge water to the groundwater.

The amount of excess effluent released from the unlined portion of the pond to recharge groundwater would be variable, but is estimated to be 50,000 gallons per day. The 50,000 gallons per day of effluent water would contain nitrogen and phosphorus. The phosphorus in the water would be utilized by algae or precipitate out as it moves through the aquifer sediment, and would cause no impacts. The nitrogen, in the form of nitrate, has the potential to move through the groundwater. At the current Tiger Point wastewater treatment facility's holding pond, the average nitrate concentration is 0.14 mg/L. Currently, nitrate loadings to the groundwater from existing landscape fertilizers and septic systems greatly exceeds this amount.

The City of Gulf Breeze performed calculations to determine the potential impacts to the groundwater from the nitrate being released from the holding pond. Calculations based on similar studies allowed for the determination of an attenuation rate for nitrate of 0.00146 mg ft^{-1} (Baskerville-Donovan, May 2009, *Draft Environmental Assessment*). Based on the load and attenuation calculations, it was determined that the holding pond would have minimal impact on groundwater, even under very unfavorable conditions.

Due to the factors discussed above, the 50,000 gallons per day of discharge to the groundwater are therefore not expected to have an impact on nutrient loadings to the groundwater.

The FL DEP permit issued for the facility has stipulated that groundwater be monitored at three locations. One location is upstream of the proposed wastewater treatment facility; this location was chosen in order to provide background information on existing groundwater quality. Two wells located downstream of the facility would be monitored quarterly; these wells would provide evidence of groundwater quality impacts from the wastewater treatment facility. Chemical parameters that would be tested for include nitrogen, total dissolved solids, arsenic, chloride, cadmium, chromium, lead, coliform, pH, sulfate, and turbidity. The permit requires sampling and analysis for pathogens (*Giardia* and *Cryptosporidium*) every two years. The FL DEP wastewater treatment permit has stipulated limits that may not be exceeded. Compliance with permit conditions would prevent contamination of groundwater resources.

In summary, the *Proposed Alternative* would have an overall positive impact on groundwater quality. The new facility would provide a sewer system to local residents, thereby allowing them to eliminate the need for their current septic systems. This would reduce the amount of fecal coliform and nitrates entering into the groundwater. The installation of the holding pond would result in a minimal impact to groundwater quality.

No Action Alternative

The *No Action Alternative* would allow for the existing groundwater impacts from the septic tanks associated with residential development to continue. This impacts the groundwater, surrounding surface drainages, and East Bay (the ultimate receiving basin for the area).

Groundwater Quantity

The project location is currently used as an effluent disposal spray field. When in operation, the amount applied is insufficient to saturate the soil down to the groundwater level and is most likely absorbed by plants and evaporated to the atmosphere. Per Richard Snyder, Ph.D. testimony during the November 22, 2005 special meeting of the Board of County Commissioners, the irrigation is not sufficient to saturate the soil down to the groundwater table and is likely not having any impact on the local hydrology.

The existing on-site spray irrigation system at the project location has been inactive for several years due to reuse user demand outpacing the supply of reclaimed water. This high demand has resulted in long term inactivity on the project location site to the point that current groundwater levels are at their natural levels and no mounding is occurring.

Proposed Alternative

The *Proposed Alternative* would process 1.5 MGD, with the potential with future expansion for 3.0 MGD. Most of the treated water would be piped offsite to the existing South Santa Rosa Utility System wastewater treatment facility to be used as irrigation water for the service area. Effluent in excess of demand from the facility's holding pond would overflow into an unlined area of the pond for storage and recharge water to the groundwater. The amount of recharge would be variable, but are estimated to be 50,000 gallons per day. This amount would have minimal impacts on groundwater levels.

Current property use includes the potential for an effluent discharge spray field that allows up to 181,000 gallons per day, although the spray field has been inactive for several years. The *Proposed Alternative* would result in the permanent removal of this use and reduce the amount of discharge to normal property irrigation and the 50,000 gallons per day discussed above.

No Action Alternative

Current property use includes an effluent discharge spray field that allows up to 181,000 gallons per day. The existing on-site spray irrigation system at the project location has been inactive for several years due to reuse user demand outpacing the supply of reclaimed water. The *No Action Alternative* would maintain the status quo and therefore maintain the potential for up to 181,000 gallons per day to be released to the groundwater.

3.2.2 Surface Water

The project location is located within the East Bay watershed, which is a sub watershed within the Pensacola Bay watershed. East Bay is classified as a Class II water, which means its designated use is for shellfish propagation or harvesting. Per the FL DEP's October 2008, *Integrated Water Quality Assessment for Florida: 2008 305(b) Report and 303(d) List Update* (October 2008), East Bay does not meet Class II water quality standards. East Bay is impaired because of high nutrient levels and total coliform. These high levels of nutrients and total coliform are coming, in part, from groundwater contamination in the watershed (see Section 3.2.1). The existing groundwater contamination also carries considerable nitrogen and phosphorous; the nitrogen is likely causing ecological impacts to surface drainages and East Bay.

The *Proposed Alternative* would have an overall positive impact on surface water quality in East Bay. The new facility would provide a sewer system to local residents, thereby allowing them to decommission their current septic systems. Placement of the wastewater

treatment facility and provision of sewer service to existing residential properties would relieve the groundwater contamination, resulting in improvements to surface water quality in East Bay.

The *Proposed Alternative* includes a five to six acre holding pond that would store excess effluent. This holding pond would release effluent to an unlined portion of the holding pond, thereby allowing discharge of 50,000 gallons per day to the groundwater (see Section 3.2.1). The 50,000 gallons released to the groundwater would contain nitrogen. The nitrogen, in the form of nitrate, has the potential to move through the groundwater. Nitrate loadings to the groundwater from existing landscape fertilizers and septic systems greatly exceeds the amount that would be contained within the 50,000 gallons per day discharged from the holding pond.

The City of Gulf Breeze studied the potential impacts to East Bay from the nitrate that would be released from the holding pond. Based on load and attenuation calculations, it was determined that the holding pond would have minimal impact on groundwater and no impact on the East Bay, even under very unfavorable conditions. See Section 3.2.1 for a complete discussion.

Due to the factors discussed above, the 50,000 gallons per day of discharge to the groundwater are not expected to have an impact on nutrient loadings to the East Bay.

A FL DEP Water Resource Permit has been obtained for this project (permit number 57-0272487-001-DE). The Water Resource Permit covers the 0.03 acre of wetland impacts and provides the Certification of Compliance with State Water Quality Standards (Section 401 Clean Water Act).

The *No Action Alternative* would have a negative impact on surface water quality in East Bay. This alternative provides for the continued use of residential septic tanks which are contributing to the impairment of groundwater. This groundwater impact is impacting the surrounding surface drainages and East Bay (the ultimate receiving basin for the area).

3.2.3 Floodplain

Executive Order (EO) 11988 requires federal agencies to take action to minimize occupancy and modification of the floodplain. Specifically, EO 11988 prohibits federal agencies from funding construction in the 100-year floodplain unless there are no practicable alternatives. FEMA's regulations for complying with EO 11988 are promulgated in 44 CFR Part 9 and include an 8-step decision making process.

Per Flood Insurance Rate Map (FIRM) 1202740355C, the *Proposed Alternative* is located within Zone X, outside of the 100-year floodplain. There would therefore be no impacts to the floodplain, nor impacts to the project from being located within a floodplain. The FIRM map is shown in **Appendix A – Exhibit 3.**

The *No Action Alternative* would have no impacts to the floodplain.

3.2.4 Coastal Zone Management Act

The Coastal Zone Management Act (CZMA) requires states with shorelines in coastal zones to have a Coastal Zone Management Plan (CZMP) to reduce uncontrolled coastal development. Projects falling within these coastal zones must be evaluated to ensure that they are consistent with the CZMP. Projects receiving federal assistance must follow the procedures outlined in 15 CFR 930.90 – 930.101 for consistency determinations. Under these procedures, grant applicants must submit their proposals to the State agency in charge of the CZMP to obtain a consistency determination. FEMA cannot approve a grant without the State agency's consistency approval.

A FL DEP Water Resource Permit has been obtained for this project (permit number 57-0272487-001-DE). The Water Resource Permit constitutes a finding of consistency with Florida's CZMP, as required by Section 307 of the CZMA. The P*roposed Alternative* is therefore in compliance with CZMA.

The *No Action Alternative* would have no impact on CZMA.

3.3 Biological Resources / Wetlands / Threatened and Endangered Species

3.3.1 Wetlands

EO 11990, Protection of Wetlands, requires federal agencies to take action to minimize the loss of wetlands. The NEPA compliance process also requires federal agencies to consider direct and indirect impacts to wetlands which may result from federally funded actions.

The National Wetland Inventory (NWI) maps indicate that the project location is primarily upland. Several excavated ponds are located on the project area's boundaries. The NWI map indicates there are large tracks of forested wetland both north and south of the project location. The NWI map for the project area is shown in **Appendix A – Exhibit 4.**

The proposed project area was field checked for the presence of wetlands both identified and not identified by the NWI map. In addition to the wetlands identified by the NWI map, a small wetland is located within a ditch in the vicinity of the current access road to the property.

Proposed Alternative

The *Proposed Alternative* would result in impacts to adjacent wetlands as a result of construction and operation of the wastewater treatment facility.

Short term, indirect impacts to the forested wetlands noted north of the project location on the NWI map could occur during construction due to the potential for erosion and sedimentation to runoff into these wetlands. (Drainage in the project vicinity is towards the north, so impacts to the wetlands south of the project area are not anticipated.) Impacts would be minimized through the implementation of best management practices (BMPs). Per FL DEP and US ACE permitting conditions, BMPs for erosion control shall be implemented and maintained at all times during construction. Methods may include, but are not limited to the use of staked hay bales, staked filter cloth, sodding, seeding, and mulching; staged construction; and the installation of turbidity screens around the project site. The City of Gulf Breeze would be responsible for ensuring that erosion control devices/procedures are inspected and maintained daily during all phases of construction until all areas that were disturbed are sufficiently stabilized to prevent erosion, siltation, and turbid discharges. Implementation of BMPs would minimize any wetland impacts during construction.

Long term, direct impacts to the ditch wetland noted in the vicinity of the current access road to the property would occur as a result of the project. The *Proposed Alternative* would require this road to be upgraded in order to accommodate the additional size and number of vehicles that would occur due to the wastewater treatment facility. Upgrades to the road system would result in 0.03 acre of wetland impacts. A FL DEP Water Resource Permit has been obtained for this impact (permit number 57-0272487-001-DE). A US ACE permit has also been obtained [SAJ-2007-386 (NW-SWA)]. Compliance with all applicable permit conditions is required an as condition of FEMA funding.

The *Proposed Alternative* would have long term, positive impacts to wetlands located north of the project area by allowing for the removal of residential septic systems in the project vicinity. Impacts to groundwater from these septic tanks are impacting groundwater quality, and thereby impacting water and vegetative quality in these wetlands.

Long term, direct impacts to both the vegetative quality and hydrology of wetlands located north of the *Proposed Alternative* could occur due to the operation of the wastewater treatment facility. As discussed in Section 3.2.1, an estimated 50,000 gallons per day of excess effluent could be discharged to the groundwater from a holding pond. The effluent would contain nitrogen in the form of nitrate. This amount would have minimal impacts on groundwater quantity or quality, and impacts to the hydrology or vegetative quality of the wetlands are anticipated to be minimal.

The *Proposed Alternative* would result in the project property being converted from an effluent disposal spray field. Although not currently being utilized, this conversion would result in the permanent loss of the potential 181,000 gallons per day of spray that could be discharged. Only a minimal amount of this effluent enters the groundwater to provide water to the wetlands. This minimal loss would be further minimized by the overflow of 50,000 gallons per day from the holding pond.

In summary, the *Proposed Alternative* would have a positive impact to wetland quality by allowing for the removal of residential septic systems in the project vicinity. Impacts to groundwater from these septic tanks is impacting groundwater quality, and thereby impacting water and vegetative quality in the wetlands. Negative impacts to the wetlands from the *Proposed Alternative* would be minimal.

No Action Alternative

The *No Action Alternative* would have continued impacts to wetlands. Impacts to groundwater quality from residential development, including landscape fertilizer and septic tanks, would continue. These groundwater impacts are impacting the surrounding wetland drainages, thereby impacting water and vegetative quality within the wetlands located north of the property.

3.3.2 Terrestrial Resources

A Biological Survey was conducted by Bosso, Dentzau, Imhof, Inc. in April 2009 for the purpose of determining impacts from the proposed project. The Biological Survey determined that the 45-acre property proposed for the new wastewater treatment facility is dominated by an upland sand-hill community. The plant community is composed of typical scrub species on most of the higher elevations, including longleaf pine (*Pinus palustris*), live oak (*Quercus virginiana*), turkey oak (*Q. laevis*) , blue jack oak (*Q. incana*), running oak (*Q. pumila*), southern red oak (*Q. falcate*), Chapman's oak (*Q. champanii*), myrtle oak (*Q. myrtifolia*), sand oak (*Q. geminate*), sand pines (*P. clausi*), loblolly pine (*P. taeda*), and saw palmetto (*Serenoa repens*). Significant regeneration of long leaf pine is occurring. Ground cover is also typical of dry-climate sand-hills, including woody goldenrod (*Chrysoma pacifloscul*osa), gopher apple (*Licania michauxii*), conradina (*Conradina canadensens*), and broom sedge (*Andropogon* spp).

The uplands described above drop to wetlands along the west and northern margins of the property. These areas contain plants typical of wet prairies, including white-topped pitcher plants (*Sarracenia leucophylla*), bog buttons (*Eriocaulon* spp.), yellow-eyed grass (*Xyris* spp.), sundews (*Drosera* spp.), wiregrass (*Aristida stricta*), red root (*Lachnanthes caroliniana*), and Curtis sand grass (*Calamovilfa curtissii*). A titi swamp is located on the northern portion of the property. These wetland communities are unique and may be home to rare and/or endangered species of plants.

The Biological Survey determined that the *Proposed Alternative* would require intensive dredge and fill activities which would result in the destruction of the upland sand-hill community. None of the existing vegetation will be able to continue inside the development footprint. Direct impacts to nesting, roosting, or foraging birds and other wildlife due to the loss of this community would occur. However, this ecosystem is still plentiful in the State of Florida.

The wetlands on the north and west margins of the property, and the titi swamp found on the northern portion of the property, would not be disturbed.

No terrestrial impacts would occur as a result of the *Proposed Alternative's* sewer pipeline. The pipeline would be installed within previously disturbed areas within road right-of-way.

The *No Action Alternative* would have no terrestrial resource impacts.

3.3.3 Threatened and Endangered Species

Under Section 7 of the Endangered Species Act (ESA), any federal agency that funds, authorizes, or carries out an action must ensure that their action is not likely to jeopardize the continued existence of any endangered or threatened species, or result in the destruction or adverse modification of designated critical habitats.

In accordance with Section 7 of the ESA of 1973, the project area was evaluated for the potential occurrences of federal and/or state protected species.

A Biological Survey was conducted at the project location for sensitive species identified through the March 2009 Florida Natural Areas Inventory list for Santa Rosa County. Multiple site inspections of the entire property were conducted for the purpose determining the potential for the presence of protected species. The Biological Survey was conducted during the weeks of April 6 and 13, 2009 by Bosso, Dentzau, Imhoff, Inc.

Per the March 2009 Florida Natural Areas Inventory, Santa Rosa County is known to have flatwoods salamander (*Ambystoma cingulatum*) critical habitat, wood storks (*Mycteria Americana*), eastern indigo snake (*Drymarchon corais couperi*), gopher tortoise (*Gopherus polyphemus*), Florida pine snake (*Pituophis melanoleucus mugitus*), gopher from (*Rana capito*), white top pitcher plant (*Sarracenia leucophylla*), and water sundew (*Drosera intermedia*).

The Biological Survey results found that there are no federal-protected species and two state-protected species, white top pitcher plant (State-endandgered) and Curtis sand reed grass (*Calamovilfa curtissii*) (State-threatened), located on the property. These state-protected species are located along the western site limits, outside of the project footprint.

Critical habitat for the flatwoods salamander is located one-third mile south of the project. No other sensitive plant or wildlife species were noted.

The *Proposed Alternative* would have no impacts on federal or state-protected species. A 25-foot building set back from the perimeter of the property is required by County ordinance. This 25-foot setback would provide adequate long term protection for the two state-protected species noted on the property. The *Proposed Alternative* would have no impact on critical habitat for the flatwoods salamander due to the project's distance and location (downstream of this habitat).

No impacts to protected species would occur as a result of the *Proposed Alternative's* sewer pipeline. The pipeline would be installed within previously disturbed areas within road right-of-way.

FEMA has concluded that based on the results of the Biological Survey, and the 25-foot set back from the property perimeter required by County ordinance, the *Proposed Alternative* would have no effect on any protected species. Copies of correspondence to US FWS detailing this determination can be found in **Appendix B**.

The *No Action Alternative* would have no impact on protected species.

3.3.4 Essential Fish Habitat

The Magnuson-Stevens Fishery Conservation and Management Act of 1996 protects fishery resources found off the coasts of the United States, anadromous species, and Continental Shelf fishery resources of the United States. Included in this protection is the protection of essential fish habitat (EFH), or waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity.

The East Bay of Pensacola Bay is an estuarine marine resource for brown shrimp (*Farfantepenaeus aztecus),* grey snapper (*Lutjanus griseus),* gulf stone crab (*Menippe mercenaria*), pink shrimp (*Penaeus duorarum*), red drum (*Sciaenops ocellatus*), Spanish mackerel (*Scomberomorus maculates*), and white shrimp (*Penaeus azetecus*). It is also critical habitat for gulf sturgeon (*Acipenser oxyrinchus).* Copies of correspondence with National Marine Fisheries Service regarding these resources can be found in **Appendix B**.

The *Proposed Alternative* would have positive impacts on EFH by allowing for the removal of the septic tank systems that are discharging coliform and nitrogen to the groundwater, which ultimately impacts groundwater water quality that discharges into the East Bay.

The *No Action Alternative* would continue the negative impacts on EFH by allowing for the continued use of the septic tank systems which are discharging coliform and nitrogen to the groundwater, which ultimately impacts groundwater water quality that discharges into the East Bay.

3.4 Socioeconomics

3.4.1 Socioeconomics

Economics

The median income in Santa Rosa County in 2007 was $50,935, compared to the State of Florida medium income of $47,804. Santa Rosa County has a minority population of

15%, compared to the State's 39%. The median value of owner-occupied homes in 2000 was $106,000 in Santa Rosa County, compared to $105,500 in the State of Florida.

Within the City of Gulf Breeze, median income was $52,522 in 1999. The minority populations in the City totaled 1.6%; the median value of owner-occupied homes in 2000 was $149,700.

Neither the *Proposed Alternative* nor the *No Action Alternative* would have a significant impact on the economics of the project area.

Land Use/Zoning

The 42-acre property that is proposed for the new wastewater treatment facility is currently being used as a spray field for wastewater effluent disposal. The property is zoned for residential development. The surrounding community is primarily undeveloped with scattered residential properties towards the south, east, and west. See **Exhibit 5** for a Land Use/Zoning Map of the area.

The Santa Rosa County Zoning ordinance allows a utility to use property zoned for residential use as long as certain conditions are met. The City of Gulf Breeze has demonstrated that they have met the conditions detailed in the Land Development Code Section 6.09.01 and the County has concurred. An allowance for this conditional use of residential property has been granted.

The proposed wastewater treatment facility is consistent with the Santa Rosa County Comprehensive Plan because it provides sewer treatment for new development in order to avoid septic tanks.

The *Proposed Alternative* would have no impacts on land use because the property is already in use for wastewater treatment effluent disposal. It would have an impact on zoning because it would result in a change from residential zoning.

The *No Action Alternative* would have no impacts on land use or zoning.

Traffic

An analysis by the City of Gulf Breeze has determined that the proposed wastewater treatment facility would not increase traffic on surrounding streets. The traffic associated with employees of a wastewater treatment facility is a small percentage of the existing traffic, and even smaller than the amount that would be generated if the site was to be developed for single family residential homes. The wastewater treatment facility is expected to result in increases in traffic of a maximum of four additional trips per hour (at peak hours), resulting primarily from wastewater treatment employees reporting/leaving for work.

It is estimated that the facility would produce 5,200 pounds per day of sludge. This results in approximately one truck per week carrying sludge from the facility once the facility reaches its design capacity of 3.0 MGD. Prior to reaching capacity, sludge hauling would occur about once every two weeks.

Neither the *Proposed Alternative* nor the *No Action Alternative* would have an impact on traffic in the project vicinity.

Noise

The potential for noise impacts on the surrounding residential community was evaluated by the City of Gulf Breeze. Noise measurements were taken at a similar facility in south Walton County in proximity to existing residential and commercial properties. Noise was measured at the facility's perimeter fence approximately 200 feet away from the nearest equipment. Results indicated that the average noise level was 61 decibels, which is not of a magnitude which would produce public concern. The wastewater treatment facility would include a landscaped buffer of at least 100 feet wide that would shield the facility from neighboring residential properties. Based upon the noise measurements in Walton County and the 100-foot landscaped buffer, the City of Gulf Breeze determined that prudent design and equipment selection would be sufficient to minimize noise impacts.

Neither the *Proposed Alternative* nor the *No Action Alternative* would have an impact on noise levels in the project vicinity.

Odors

The potential for odor impacts from the proposed wastewater treatment facility was evaluated by the City of Gulf Breeze. The portion of the facility that handles influent raw sewage typically has the highest concentration of odor causing substances. The wastewater treatment facility was designed with this portion centrally located on the site. Additionally, a 100-foot wide vegetative buffer area would be provided to keep odors from affecting adjacent properties. Odors are not expected to leave the property boundaries, and no odor control units would initially be installed. If odor does affect adjacent properties once the facility starts receiving flow, provisions are in place to easily install odor control measures. This includes wall penetrations for odor control ductwork in the influent section of the facility. Such preparation would allow for a rapid retrofit of odor control equipment in a short timeframe, should conditions warrant the upgrade.

Neither the *Proposed Alternative* nor the *No Action Alternative* would have an impact on odors.

Visual Aesthetics

The City of Gulf Breeze has committed to meeting visual requirements for the proposed wastewater treatment facility. The visual requirements are 1) all structures must be less than 35 feet in height, and 2) Santa Rosa County landscape buffers must be met. A

landscaped buffer of at least 100-feet wide would shield the facility from view. The facility design would minimize the industrial look of the facility and present an aesthetically acceptable view.

Neither the *Proposed Alternative* nor the *No Action Alternative* would have an impact on visual aesthetics.

Hazardous Materials

Chemicals used at the proposed facility would either be generated on-site from non-hazardous materials or delivered via truck and stored on-site, inside chemical tanks with secondary containment structures. No gas phase chemicals are proposed for use at the facility. Based on this, the potential for hazardous chemical impacts are minimal.

Neither the *Proposed Alternative* nor the *No Action Alternative* would result in hazardous material impacts.

Lighting Impacts

Impacts to the community surrounding the wastewater treatment facility due to lighting would be minimized through the use of fixtures that minimize any sky glow effect and minimize any trespass of light off of the facility.

Neither the *Proposed Alternative* nor the *No Action Alternative* would have an impact on lighting.

3.4.2 Property Values

The City of Gulf Breeze hired Brantley & Associates, a real estate appraisal corporation, to determine if the placement of a wastewater treatment facility at the proposed location would result in a devaluation of real estate property values. They concluded that no loss in value would occur to the surrounding properties. This opinion was based on the fact that a landscaped buffer would be planted along the perimeter of the wastewater treatment facility to shield views from residential properties; no abnormal smells, noise, or traffic would be generated; and there would be no adverse health hazards.

3.4.3 Environmental Justice

On February 11, 1994, President Clinton signed EO 12898, *"Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations."* This EO directs federal agencies "to make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low income populations in the United States…." EO 12898's goals are to achieve environmental justice, foster non-discrimination in federal programs, and give

minority or low-income communities greater opportunities for public participation in and access to public information on matters relating to human health and the environment.

Socioeconomic and demographic data for the project area were analyzed to determine if a disproportionate number of minority or low income persons have the potential to be adversely affected by the proposed project. Low-income populations were identified using data from the 2000 U.S. Census. The percentage of disadvantaged people in the potentially affected area was compared to demographics in Santa Rosa County to determine if an environmental justice impact could occur. Minority and low-income population totals and percentages are presented in the table below. (The data was obtained from Census Tract 108.05 Block Group 1.)

MINORITY AND LOW-INCOME POPULATION TOTALS AND PERCENTAGES ESTIMATES						
Area	**Percentage Minority**	**Percentage 17 and Younger**	**Percentage 65 and Older**	**Number of Households**	**Average Median Household Income**	**Income Below Poverty Level (Percent)**
Santa Rosa County	9	27	11	43,793	$41,881	10
Proposed Alternative	10	27	9	2,376	$48,664	7

Based on the information presented in the table above, no disproportionate impacts are expected to minority or low income populations from the *Proposed Alternative*.

Further investigation into the properties within the immediate vicinity of the *Proposed Alternative* revealed that there are several mobile homes present along the western, northern, and eastern boundaries of the *Proposed Alternative*. Although mobile homes are sometimes indicative of the presence of lower income households, their presence does not necessarily indicate the existence of a disadvantaged population. Additionally, most of the identified properties are not typical of low income mobile home properties. If there is an unidentified low income population present in the vicinity, the *Proposed Alternative* would not have a disproportional adverse effect. The City of Gulf Breeze would provide access to sanitary service to adjacent residents on Bergren Road, River Birch Road, and Clay Circle. All connection fees would be waived to any resident who chose to connect to the new sewer system when it is installed. The City of Gulf Breeze would also offer construction connection service from any of these residences at that time, allowing multi-year payment plans in order to make connection more affordable.

3.5 Cultural Resources

Consideration of impacts to historic properties and/or cultural resources is mandated under Section 106 of the National Historic Preservation Act (NHPA), as amended, and implemented by

36 CFR Part 800. These and other related statutes require federal agencies to take into account the potential consequences of their decisions, and to incorporate into their actions measures as appropriate and to the maximum extent possible or practicable to avoid, minimize, or mitigate any adverse impacts to historic resources. Requirements include identification of significant historic properties or cultural resources that may be impacted by the proposed action or that fall within the project's area of potential effect (APE).

A Historic Property is defined as "any district, building, structure, site, or object that is significant in American history, architecture, archeology, and culture" and that is listed in or eligible for listing in the National Register of Historic Places (NRHP) (36 CFR 60.4). As defined in 36 CFR Part 800.16(d), the APE "is the geographic area or areas within which an undertaking may directly or indirectly cause changes in the character or use of historic properties, if such properties exist."

In addition to identifying historic properties that may exist in the proposed project's APE, FEMA must also determine, in consultation with the SHPO and (if applicable) Tribal Historic Preservation Officers (THPO), what effect, if any, the action would have on historic properties. Moreover, if the project would have an adverse effect on these properties, FEMA must consult with the appropriate agencies on ways to avoid, minimize, or mitigate the adverse effect.

3.5.1 Historic and Archaeological Resources

The *Proposed Alternative* property was originally surveyed by Pensacola Archaeological Lab (PAL) in 1998. In March of 2009, a Phase I survey titled *Archaeological and Historic Resurvey of the Frecht Tract*, was prepared by Panamerican Consultants Inc. (PCI). The survey was completed in accordance with Chapter 1A-46 of the Florida Administrative Code, Chapters 267 and 373 of the Florida Statutes and Florida's Coastal Management Program.

The PCI report identified no standing structures on the site and no significant historic ownership or events associated with the property. During their survey of the project area, PCI discovered and documented two previously unrecorded prehistoric lithic scatter sites recorded as 8SR1913 and 8SR1914. In keeping with FEMA's responsibilities under Section 106 of the NHPA, a FEMA historical specialist has reviewed this project, and in particular, the two archaeological sites of interest identified in the survey.

Site 8SR1913 is described as a small, low-density scatter of prehistoric lithic artifacts situated on a slightly elevated terrace along the west side of an unnamed branch in the southeastern portion of the Frecht Tract. Initially, three un-diagnostic lithic artifacts were recovered from a disturbed surface context. Subsequently, ten shovel tests were excavated in the immediately adjacent area, but no additional artifacts were recovered. The site is disturbed and does not possess substantial subsurface deposits, diagnostic artifacts, artifact concentrations, or archaeological features.

Site 8SR1914 is described as a small, low-density scatter of prehistoric lithic artifacts situated on a slightly elevated terrace adjacent to a small, unnamed drainage in the southwestern portion of the Frecht Tract. Initially, two un-diagnostic lithic artifacts were recovered from a disturbed surface context. Subsequently, 13 shovel tests were excavated in the immediate vicinity, with a single piece of chert debitage recovered from a shallow sub-surface context. This site has suffered significant negative impacts from extensive logging, as well as more recent land use, and does not possess substantial subsurface deposits, diagnostic artifacts, artifact concentrations, or archaeological features.

During the period between 1996 and 2007, there have been six other cultural resource surveys in the vicinity of the proposed project. Five archaeological sites are recorded within one mile of the site. One site (8SR45) was recorded in 1970 based on non-contextual spot-finds by the property owner. The exact location was not documented and it was not evaluated for NRHP eligibility. In 1999, a new plot of the general vicinity placed it adjacent to the project site, southeast of 8SR1913. In total, 65 shovel tests have been excavated within the proposed project area. Of these, only two were positive for historic or prehistoric materials; the one referenced in 8SR1914 above and an isolated prehistoric lithic artifact discovered during a 1998 survey by PAL in the vicinity of 8SR1913.

The 2009 PCI Survey concluded that Sites 8SR1913 and SR1914 are both highly disturbed, light-density lithic scatters with no research potential beyond Phase I level of investigation. As a result, no further archaeological or historic investigations were recommended.

The *Proposed Alternative* would not have a significant impact on archaeological resources. FEMA has reviewed the available information, including the 2009 PCI Survey, archaeological site reports, SHPO Archaeological Master Site Files, maps, and aerial photographs of the project area. Based on this review, FEMA has determined that sites identified at the location of the *Proposed Alternative* lack the necessary significance and integrity necessary for inclusion in the NRHP. In their letter of June 4, 2009, SHPO concurred with FEMA's determination that the sites do not possess those qualities necessary for listing in the National Register, and therefore no historic properties would be affected by the project (DHR project file 2009-02525). Copies of correspondence detailing coordination with the SHPO can be found in **Appendix B**.

No impacts to cultural resources would occur as a result of the *Proposed Alternative's* sewer pipeline. The pipeline would be installed within previously disturbed areas within road right-of-way, in accordance with the Programmatic Agreement among FEMA, SHPO, and FL DEM, with the revised Appendix B: Programmatic Allowances dated September 29, 2005; Section I, Ground disturbing activities and site work, when all work is performed in previously disturbed or archaeologically surveyed areas.

In order to ensure that no impacts occur due to unexpected findings, the following conditions will be placed on any construction associated with *the Proposed Alternative*:

To minimize any possible adverse impacts to cultural resources, an archaeologist must be present to monitor any ground disturbing activities in the vicinity of Sites 8SR1913 and SR1914. Should significant cultural features or artifacts be discovered during archaeological monitoring, the archaeologist doing the monitoring shall be empowered to redirect construction activities away from the area. Any cultural resources discovered as a result of the project must be reinterred on site, as close as possible to the location of discovery. A field report documenting the monitoring and any discoveries will be required at project close-out.

In the event that fortuitous finds or unexpected discoveries, such as prehistoric or historic artifacts, including pottery or ceramics, stone tools or metal implements, or other physical remains that could be associated with North American cultures or early colonial or American settlement are encountered at any time within the project area, the project shall cease all activities involving subsurface disturbance in the immediate vicinity of such discoveries. If the excavation process uncovers items, or evidence thereof, which might be of archaeological, historic, or architectural interest, the City of Gulf Breeze must require its designated contractors to stop work immediately; notify FEMA, the SHPO, and the appropriate THPO; and take all reasonable measures to protect the items in a manner sufficient to avoid additional harm until the significance of the discovery can be determined.

In the event that any human remains are unearthed, all work will stop immediately and the area shall be secured in accordance with local, state, and federal statutes.

The *No Action Alternative* would have no impacts to cultural resources or historic properties because there would be no construction activities.

3.5.2 Traditional Religions/Native American Resources

FEMA has contacted representatives of the Seminole Tribe of Florida, Miccosukee Tribe of Indians of Florida, and Poarch Band of Creek Indians to determine if any of the Tribes place cultural or religious significance to this property, has any specific comments or concerns related to the project, or would otherwise like to request status as a “consulting party” in the review of the subject project pursuant to Sections 101 and 106 of the National Historic Preservation Act, and 36CFR Part 800. None of the THPOs asked to participate as a “consulting party”. Comments received included a request that an archaeologist be present during ground disturbing activities and that all cultural materials be reinterred on site, as close as possible to the location of discovery. Copies of correspondence detailing coordination with Native American interests can be found in **Appendix B**.

The *Proposed Alternative* would not have a significant impact on tribal resources. Mitigation measures discussed in Section 3.5.1 would minimize any possible adverse impacts to tribal resources.

The *No Action Alternative* would have no tribal resource impacts because there would be no construction activities.

3.6 Cumulative or Secondary Impacts

Cumulative effects are those ". . . which result from the incremental consequences of an action when added to other past and reasonably foreseeable future actions" (40 CFR 1508.7). An example of a cumulative effect would be the degradation of a stream's water quality by several developments which when taken individually would have minimal effects, but as a collective action would cause a measurable negative impact. Secondary effects are those impacts which are ". . . caused by an action and are later in time or further removed in distance but are still reasonably foreseeable" (40 CFR 1508.8), such as a new development attracted to the vicinity of an intersection created by a new highway facility.

No cumulative or secondary impacts have been identified for the *Proposed Alternative*.

The *No Action Alternative* has both cumulative and secondary impacts. Cumulative impacts would occur to water quality within East Bay due to the continued input of fecal coliform and nitrogen from the area's septic systems. This continued input from the area's septic tanks would contribute to the failure of East Bay to meet Class II water quality standards. Secondary impacts would occur if the property were to undergo residential development. The septic systems that would be installed in support of future residential development would increase the impacts to water quality in East Bay.

The *No Action Alternative* could also have a secondary impact to traffic volumes if the property were to be developed for residential use.

4.0 PUBLIC INVOLMENT AND AGENCIES CONSULTED

The purpose for involving the public in the development of an EA is to "encourage and facilitate public involvement in decisions which affect the quality of the human environment" (40 CFR 1500.2) and to ensure "that environmental information is available to public officials and citizens before decisions are made" (40 CFR 1500.1(b)).

4.1 Public Involvement

The City of Gulf Breeze has offered open forum opportunities in both its City Council meetings and in City Public Hearings. These open forum opportunities have been ongoing since 2002. The public provided input at the October 6, 2005 Planning and Zoning Board of Adjustments meeting and the November 22, 2005 Board of County Commissioners meeting. Comments received at these two meetings were responded to verbally at the respective meetings.

Santa Rosa County has sent certified letters to all property owners within 150 feet of the *Proposed Alternative* property on September 21 and November 8, 2005. Additionally, the County posted a sign on the property advising the intent of the proposed project and the proposed meetings. Santa Rosa County advertised all of the meetings in the local newspapers and the agendas were available on the County web site.

A Public Meeting was held on June 10, 2009 for the purpose of providing information on all of the projects that the City of Gulf Breeze plans to fund as alternate projects for the damaged fishing pier. This public meeting was advertised in the June 2 and June 4, 2009 issues of *Gulf Breeze News*. Plans for the proposed wastewater treatment facility were specifically presented at this meeting. There were no members of the public in attendance at this meeting; no comments from the public were received.

The City of Gulf Breeze and Santa Rosa County believe that there has been sufficient notice made to the public regarding the proposed project and ample opportunity for the public to provide input. In addition to the public involvement provided by the City and County, FEMA has provided additional opportunities for public input. A disaster-wide initial public notice was published state wide on December 3 through 15, 2004. A general final public notice was filed state wide November 11-December 1, 2005. No comments were received as a result of these notices.

A project specific public notice has been placed in the *Gulf Breeze News* on August 13, 2009 advising that a Draft EA has been developed for this project. The public notice provided a project description, information on where a copy of the EA could be obtained, and invited the public to provide comments.

Copies of the Draft EA have been placed at the following locations so that the public may access this document and provide comments.

Santa Rosa County South Annex Building Mr. Jim Ward 5819 Gulf Breeze Parkway Gulf Breeze, FL 32563 (850-983-1977)	Gulf Breeze City Hall City Clerks Office Ms. Marita Rhodes 1070 Shoreline Drive Gulf Breeze, FL 32562 850-934-5135
Santa Rosa County, Clerk of Courts Ms. Christin Rowell 6495 Carolyne Street Suite A Milton, FL 32570 850-981-5535	

A copy of the Draft EA has also been placed on the FEMA web site. It can be accessed at:

http://www.fema.gov/plan/ehp/envdocuments/index.shtm

4.2 Agencies Consulted

The following federal and state agencies were contacted in support of this EA.

Mr. David Bernhard Division Chief Protected Resource Division National Marine Fisheries Division 263 13th Avenue St. Petersburg, FL 33701	Ms. Gail Carmody U.S. Fish & Wildlife Service Panama City Field Office 1601 Balboa Avenue Panama City, FL 32405-3721
Mr. Federick P. Gaske Director, Division of Historical Resources Department of State Bureau of Historic Preservation 500 S. Bronough Street Tallahassee, FL 32399-0205	Lt. Colonel Louie Roberson Regional Director Florida Fish and Wildlife Conservation Commission 3911 Highway 2321 Panama City, FL 32409

Mr. William Steele Tribal Historic Preservation Officer Seminole Agency HC61 Box 21-A Clewiston, FL 33440	Mr. Steve Terry Real Estate Director Miccosukee Tribe of Indians P. O. Box 440021 Tamiami Station Miami, FL 33144
Mr. Robert Thrower Tribal Historical Preservation Officer Poarch Bank of Creek Indians 5822 Jack Springs Road Altmore, AL 36502	

5.0 REFERENCES AND LIST OF PREPARERS

5.1 References

Baskerville-Donovan Inc. January 2008, *Updated Capacity Analysis Report for 2007* Prepared for Santa Rosa Utility System Wastewater Treatment Facility.

Baskerville-Donovan Inc. May 2009, *Draft Environmental Assessment* Prepared for the Federal Emergency Management Agency under contract with the City of Gulf Breeze.

Bosso, Dentzau, Imhof, Inc. April 2009, *Biological Survey Report for South Santa Rosa Eastern Waste Water Treatment Facility in Santa Rosa County, Florida*

City of Gulf Breeze and South Santa Rosa Utility System, October 6, 2005, *Eastern Wastewater Treatment Plant Expert Testimony for Conditional Use Appeal*

Florida Department of Environmental Protection, *Adopted Verified Lists Of Impaired Waters for the Group 4 Basins*, May 3, 2006 http://www.dep.state.fl.us/water/tmdl/adopted_gp4.htm

Florida Department of Environmental Protection, October 2008, *Integrated Water Quality Assessment for Florida: 2008 305(b) Report and 303(d) List Update* http://www.dep.state.fl.us/water/docs/2008_Integrated_Report.pdf

National Wetland Inventory Maps via U.S. Fish & Wildlife Service's *View Wetlands Data with Google Earth*; http://www.fws.gov/wetlands/Data/GoogleEarth.html

Panamerican Consultants Inc., March 2009, *Archaeological and Historic Resurvey of the Frecht Tract*

5.2 List of Preparers

James Anderson, P.E. Baskerville-Donovan, Inc. 449 West Main Street Pensacola, FL 32502 850-438-9661	Daniel Broxson, E.I. Baskerville-Donovan, Inc. 449 West Main Street Pensacola, FL 32502 850-438-9661
Richard Delp, Project Manager Baskerville-Donovan, Inc. 449 West Main Street Pensacola, FL 32502 850-438-9661	Stephen Milford, Finance Director City of Gulf Breeze 1170 Shoreline Dr. Gulf Breeze, FL 32561 850-934-5100
Richard Myers Environmental Liaison Officer Federal Emergency Management Agency 36 Skyline Drive Lake Mary, FL 32746 407-268-8812	Cheryl Nash, P.W.S. Senior Project Scientist AECOM 303 East Wacker Drive Chicago, IL 60601-5276 312-373-6808